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ABSTRACT

The resource persons and program descriptions in this directory came from answers supplied in a 1988 survey mailed to 135 entities having some relationship to or interest in promoting the distribution of water education materials suitable for use in Texas elementary or secondary schools. This directory includes an update on the programs submitted in 1988 plus some information on additional programs that were created or located during 1989 and 1990. The materials described include classroom curriculum approved by the Texas Education Agency and correlated to the essential elements, comic books, pamphlets, dramas, speakers bureaus, workshops, seminars, and field trip opportunities. Environmental education materials and resources have also been included since water education is often included under this larger heading. The listings are in alphabetical order under the type of water organization or institution supplying the materials or programs. A contact person is listed for each entry. Sections include: (1) Associations, Organizations, and Foundations; (2) River Authorities; (3) Cities; (4) Water and Utility Districts; (5) Regional, State, and Federal Agencies; (6) Institutions of Higher Learning; and (7) Commercial Resources. (KR)

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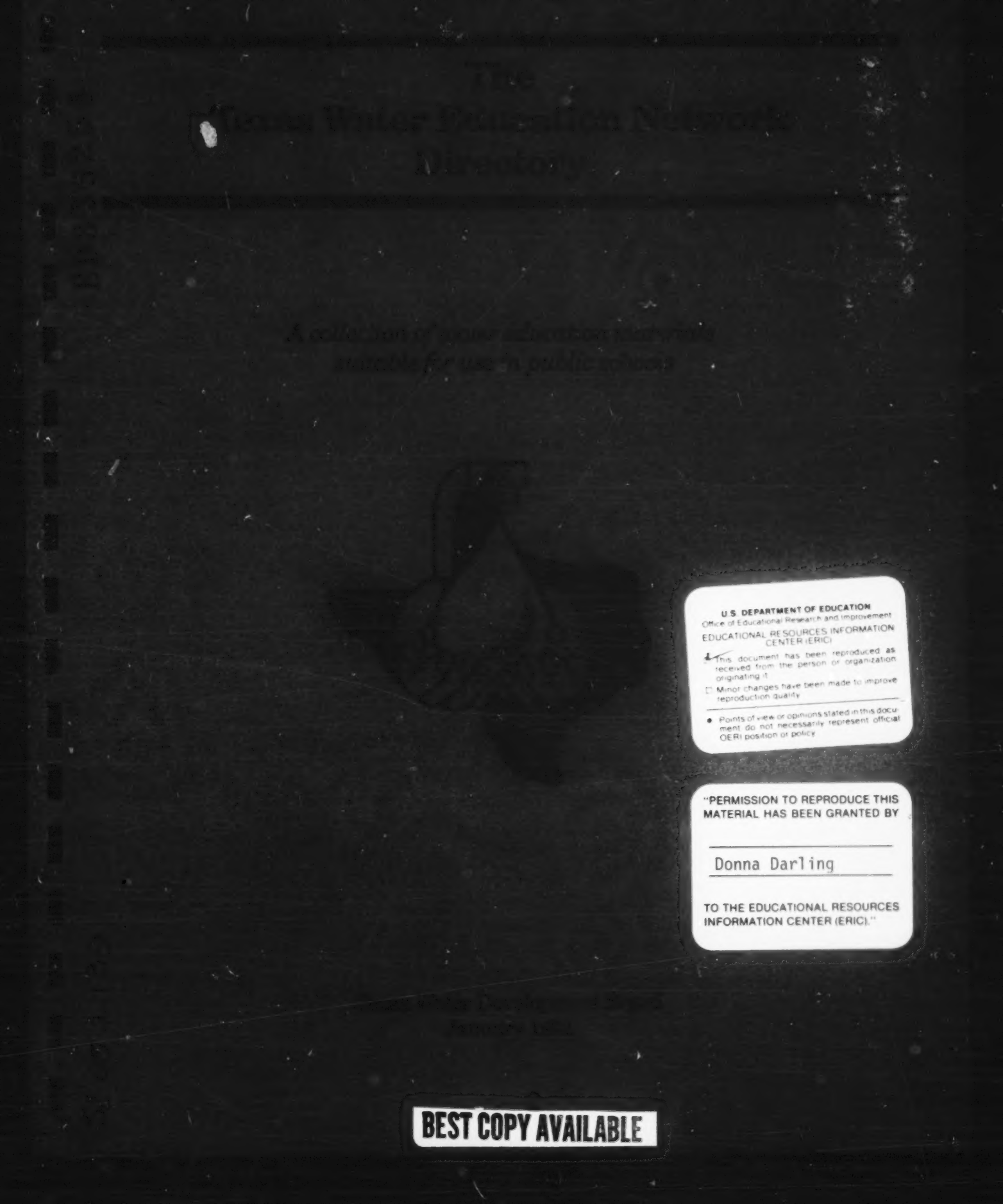

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THE TEXAS WATER EDUCATION NETWORK DIRECTORY

Although we can expect the presentation format to change with the times, I think we can safely say that as far as generic water education materials development is concerned, the wheel has been invented. The challenge, then, seems to be in locating and distributing some of these effective materials. In that light, this Directory is offered for your use and active participation.

The resource persons and program descriptions in this directory came from answers supplied in a 1988 survey mailed to 135 entities having some relationship to or interest in promoting the distribution of water education materials suitable for use in Texas elementary or secondary schools. The current directory includes an update on the programs submitted in 1988 plus some information on additional programs that were created or located during 1989 and 1990.

The materials described include classroom curriculum approved by the Texas Education Agency and correlated to the essential elements, comic books, pamphlets, dramas, speakers bureaus, workshops, seminars, and field trip opportunities. Environmental education materials and resources have also been included since water education is often included under this larger heading.

The listings are in alphabetical order under the type of water organization or institution supplying the materials or programs (i.e. river authorities, state agencies, water districts).

You are encouraged to call the contact person listed to find out specific details on availability of the materials or programs described. In this way, we can begin to network with others who can provide access to materials or programs useful for re-enforcing the need to protect and conserve water. Also, sharing these materials may be a cost-efficient alternative for those who might not otherwise be able to participate.

ASSOCIATIONS, ORGANIZATIONS & FOUNDATIONS

AMERICAN WATER WORKS ASSOCIATION
John Kayser
6666 West Quincy Avenue
Denver, Colorado 80235
303/794-7711

The catalog of the American Water Works Association is 82 pages of everything you ever wanted to have or know about water. The Water Education Package includes teacher's guides for grades K-3, 4-6, and 7-9. *The Story of Drinking Water* is a 16-page illustrated book for students in grades 4-8 that actually describes the history and modern workings of drinking water and is available in English, Spanish, or French. *Water Fun for You* is an action-packed workbook on water for students in grades K-3. *Splash! Activity Book is* AWWA's new learning tool for children K-4 with cross-curriculum activities centered around water. For high school students, AWWA has a new software program. *Project Waterworks* operates on Apple computers and has a variety of interactive science related experiments with water. Write or call for free catalog and samples.

CLEAR CLEAN COLORADO RIVER ASSOCIATION'S COLORADO RIVER WATCH NETWORK
Mark Wieland
3116 South Congress Avenue
Austin, Texas 78704
512/462-1588

The Clear Clean Colorado River Association's Colorado River Watch Network (CRWN) is part of the River Watch Network, an umbrella organization which helps organize similar programs around the country.

CRWN involves individual citizens from cities and counties along the River's watershed, as well as students in elementary, middle school, junior and senior high schools, in monitoring water quality in the Colorado River and its tributaries.

The content of the public school education program sponsored by the Colorado River Watch Network includes: (1) teacher training workshops to familiarize educators with field and laboratory equipment and procedures and (2) student participation in water collection and testing for various measurements of quality. Students learn the following:

1. water chemistry for testing water quality
2. biological indicators of water quality
3. statistical analysis
4. elements of publicity/enforcement

Participation in the classroom and school-based field studies portion of the CRWN is coordinated through Wesley F. Halverson, PhD., of LBJ High School's environmental science program and Science Magnet School in Austin.

The course manual overviews water, water quality, the importance of water, water quality testing procedures, equipment needed, etc. The current edition of the manual, *"Field Manual for Water Quality Monitoring - An Environmental Education Program for Schools"* by Mark Mitchell and William B. Stapp, is available by writing:

William B. Stapp
2050 Delaware
Ann Arbor, Michigan 48103

EL PASO COMMUNITY FOUNDATION
Virginia Kemendo, Program Officer
1616 Texas Commerce Bank Building
El Paso, Texas 79901
915/533-4020
FAX 915/532-0716

As El Paso Community Foundation's major project under a Ford Foundation grant, water studies are included in a videotaped-based curriculum, *Living on the Desert: Conserving Our Natural Resources.* The curriculum is designed for grades 3-8 and has received favorable attention from all school districts in El Paso and Hudspeth Counties. This curriculum is useful to arid areas in particular, although many aspects of the studies are applicable everywhere.

Teacher's guides were written by teachers from the applicable grades. They received orientation from experts in all fields, including water, hazardous wastes, air quality, land use, geology, climate, soils, and all other aspects of our environment.

The curriculum is designed around the essential elements that must be taught in Earth Sciences according to Texas law.

TEXAS ASSOCIATION OF WATER BOARD DIRECTORS
1415 Fannin, Suite 200
Houston, Texas 77002
713/759-1377

The Texas Association of Water Board Directors supports water education efforts by serving as a clearinghouse for available public school programs on water, water conservation, and state-related programs for its member water districts across the state.

For the past two years, several member districts have sponsored distribution of the *Major Rivers* water education program in the fourth-grade classrooms of schools in their district.

The *Major Rivers* program includes lessons on the water cycle and basic concepts about Texas water supply and demand, water and wastewater utility services, water quality and conservation. Information about AWBD's involvement in the *Major Rivers* program is available by contacting:

David Harper
Anderson Mill Municipal Utility District
11500 El Salido Pkwy.
Austin, Texas 78750
512/258-4104.

TEXAS SOCIETY OF PROFESSIONAL ENGINEERS
Anne M. Treadway
3501 Manor Road
Box 2145
Austin, Texas 78768
512/472-9286

Conducts joint program called *Water and Man* with Texas Water Development Board for use in public schools, grades K-12. Also conducts teacher training workshops through TEA Regional Service Centers. Lessons have been keyed to essential elements. Format includes teacher's guides, *Water Jargon*, and a *Bibliography of Teaching Resources*. Materials are available through Regional Service Centers or by contacting TSPE.

TEXAS WATER UTILITIES ASSOCIATION
Daniel C. Allen, Executive Director
1106 Clayton Lane, Suite 101E
Austin, Tx. 78723-1033
512/459-3124

The Texas Water Utilities Association can provide films, brochures, coloring books and other materials for classroom presentations. It can also be helpful in arranging for a speaker, or in scheduling a guided tour of a water or wastewater treatment facility in the area.

River Authorities

Guadalupe-Blanco River Authority

Tami Malatek, Assistant to Director of Planning & Development
P.O. Box 271
933 East Court Street
Seguin, Texas 78156-0271
512/379-5822

A Journey Through the Guadalupe River Basin

The Guadalupe-Blanco River Authority (GBRA) is offering, free of charge, *A Journey Through the Guadalupe River Basin*, to schools throughout the Guadalupe River Basin. The Guadalupe River Basin consists of the following ten counties: Kendall, Comal, Hays, Guadalupe, Caldwell, Gonzales, DeWitt, Refugio, Victoria, and Calhoun counties. *A Journey Through the Guadalupe River Basin* is a fourth grade water education program developed to promote student knowledge and awareness of local water uses and issues in the Guadalupe River Basin. The learning narrative is presented by cartoon characters "Edward A. Armadillo" and "Lupe" the turtle.

The program consists of five lessons covering water uses and the importance of springflow to the Guadalupe River Basin. Each kit includes a teacher's guide, program record sheet, film strip, an overhead transparency map of the Basin, 25 student manuals, pretests, posttests, and pencils.

Model of Water Treatment Process

GBRA has available a portable model for showing the different steps taken to treat surface water for drinking purposes. The model includes microscopes; a narrative with each step of treatment; holding tanks containing water; and a model of a filter containing sand, gravel and coal. The model is designed for use in teaching at an intermediate level.

Major Rivers

Major Rivers is a water education program which is available free of charge to fourth grades throughout the Guadalupe River Basin. The *Major Rivers* program includes lessons on the water cycle and basic concepts about Texas water supply and demand, water and wastewater utility services, water quality and conservation. The sets include a teacher's guide, students booklets, a video, water supply and distribution posters, pretests and posttests, home-information leaflets and fun stickers. If you are interested in ordering the program, please contact the Guadalupe-Blanco River Authority.

Lower Colorado River Authority

Consumer Education Programs
P. O. Box 220
Austin, Tx. 78767
512/473-3227

Major Rivers

A two-week, 10-lesson unit on water in Texas, *Major Rivers* is available free-of-charge to fourth grade classes in Bastrop, Blanco, Burnet, Colorado, Fayette, Llano, Matagorda, San Saba, Travis and Wharton Counties. The *Major Rivers* curriculum studies the water cycle and basic concepts about Texas water supply and demand, water and wastewater utility services, water quality and conservation. The unit materials are correlated to the fifth grade Texas Education Agency Essential Elements in science, social studies and the TEAMS writing composition requirements. A class set includes: a teacher's guide, an LCRA-produced video, a Texas Water Supply & Distribution poster, an LCRA 10-County Area poster, a teacher evaluation form, and student pretests and posttests, booklets, and home information leaflets. LCRA resupplies the

student materials each year. TEA-approved Teacher Inservice Workshops were conducted to introduce *Major Rivers* to lead teachers from each school. The *Major Rivers* materials are available for purchase by contacting Educational Development Specialists, Lakewood, CA, (213) 420-6814.

Water Education Materials Catalog
Materials available free-of-charge to secondary schools and community groups within the LCRA 10-county area.

City Utilities: Our Basic Services (Loan-basis only)
16 minute - VHS 1/2" videotape, Grades 4-8, Social Studies & Science.
Identifies the basic utility services of water, sewer, electric, gas and telephone. Focuses on how water is directed from its source, purified, reaches the home, is disposed of and treated.

Concern, Inc. Community Action Guides
Resource books that provide comprehensive community action guidelines with where to go for help, what questions to ask, and suggestions for action. Titles and contents are:

Drinking Water (quality and protection, water testing and treatment, supply and conservation, and innovative state programs)

Groundwater (availability and depletion, quality and contamination, public health, and detection and monitoring)

Farmland (agricultural chemicals and public health, soil and water contamination, resource conservation, and environmentally-sound farming)

Pesticides (pesticides and health, agricultural pesticides, and pesticides in forests, cities and towns)

Waste: Choices For Communities (problems facing communities, current management options and alternatives, and suggested actions to achieve nationwide commitment to waste reduction, recycling, and reuse)

Pamphlets

LCRA also distributes *The ABC's of Water Conservation* and *Wise Water Use Outdoors* booklets to schools and LCRA water customers upon request.

Note: LCRA materials are available only within the 10-county LCRA statutory district (San Saba, Llano, Burnet, Blanco, Travis, Bastrop, Fayette, Colorado, Wharton and Matagorda Counties.)

Synopsis of Videotapes Available Through the LCRA Video Department
512/473-3313

Pointless Pollution - March 1989/8:00
Documentary produced by LCRA and narrated by Walter Cronkite to make the public aware of the diffuse sources of non-point source pollution, such as rainfall and surface runoff. Nonpoint pollution contributes as much as two-thirds of all water pollution and challenges our efforts to achieve better quality water in our rivers and streams. Video available free-of-charge within LCRA's 10-county statutory district; available to purchase or rent outside LCRA area by contacting Bullfrog Films, 1-800-543-FROG.

It All Adds Up - 1987/7:30
This program, which won a Cine Golden Eagle Award, shows you how to save water around the house without changing your lifestyle.
Xeriscape - 1987/12:00
Water conservation through creative landscaping techniques.

Irrigation Canals - 1988/5:25
A look at the maintenance and improvements of LCRA's rice irrigation canals in South Texas.

Lake Buchanan Aerial Tour - 1988/3:50 & 2:00 minute versions
Take an eagle's eye view of Lake Buchanan and the spectacular multiple arch dam which holds back the water.

LCRA Lake Fishing - 1987/5:11
A fisherman's tour of the Highland Lakes, Lake Bastrop, and Lake Fayette.

LCRA Update - 1989/7:30
An overview of the history of LCRA and the water and land programs in operation today.

The Texas Colorado: Reflections of a River - 1984/29:00
Traces the river from its head waters in West Texas to its mouth at the Gulf of Mexico. Interviews with people who have lived on the river and seen the changes it has brought. Beautiful scenery.

Acid Rain: No Simple Solution - 1985/30:00 (Edison Electric Institute)
How serious a problem is acid rain? Should stricter laws be enacted to safeguard the environment, and should utilities be forced to install expensive scrubber systems.

LOWER NECHES VALLEY AUTHORITY
P. O. Drawer 3464
Beaumont, Texas 7704
409/892-4011

LNVA makes slide show presentations to school classes, service organizations, garden clubs, professional organizations, etc. Program content is related to water conservation, distribution, supply, reclamation, storage, and protection. Programs on pollution control and environmental protection are also included. Appropriate printed materials are distributed during the programs.

SAN ANTONIO RIVER AUTHORITY
P. O. Box 830027
San Antonio, Texas 78283-0027
512/227-1373

As a long-term aid to water pollution control and abatement, the San Antonio River Authority (SARA) has taken an active role promoting public awareness of aquatic ecology, water pollution, conservation and resource protection in the SARA basin. Personnel of the SARA Environmental Services Division participate with other agencies and organizations in various environmental outreach programs, and make themselves available for presentations and talks to school groups (elementary through college), fishing clubs, museum groups, and civic organizations.

CITY OF AUSTIN, TEXAS
Water and Wastewater Utility
Mike Howe
625 East 10th Street, Suite 720
Austin, Texas 78701
512/322-3647

The City of Austin's water and wastewater education program is comprised of plant tours, which describe the actual treatment process. On-site lectures are also conducted by professional staff. Both tours and lectures have been given to students ranging from third grade through Junior College. The city distributes materials that have been ordered through various vendors as well as buttons and other literature designed by Utility staff.

As part of the "general public" education, the City of Austin Water and Wastewater Utility participates in a number of trade/sale shows during the year with a visual display and materials.

The Utility is currently developing assorted bill inserts which will address the importance of water conservation and provide conservation tips.

CITY OF SHERMAN, TEXAS
David E. Gattis, Director Public Works & Engineering
P. O. Box 1106, 400 North Rusk
Sherman, Tx. 75090
214/892-7209

- Water Wheel: Your Guide to Home Water Conservation
- A flow restrictor for lavatory faucet & shower head
- *Conservation Starts at Home* coloring page

CITY OF ARLINGTON WATER UTILITIES
Cheryl Taylor West
P.O. Box 231
Arlington, Texas 76010
817/459-6602

The Arlington Water Utilities Department has been involved in public education programs very extensively. Highlighted below are some of the major approaches used in this city to expand this program.

Public Education Committee
This committee consists of professionals from Water Administration, Water Treatment, Laboratory Services, and Pollution Control. They are the core group responsible for organizing public education on water related issues. They are frequently asked to speak to a variety of groups, both city and state wide and are occasionally televised on local programs concerning water related topics.

Elementary and Secondary Public Education
The Arlington Water Utilities works extensively with both elementary and secondary education in the Arlington Independent School District. We offer classroom presentations and provide tours of our Pierce Burch Water Treatment Plant targeted for third grade students. We provide a one hour teachers in-service program in August and have Texas Education Agency approved certified credit classroom instruction for teachers.

University of Texas at Arlington
The Public Education Committee has done presentations for UTA science classes and environmental groups.

Civil Groups
We have done a variety of presentations to day care facilities, church groups, senior citizens clubs, Boy Scouts, Girl Scouts, and so forth.

Gardening Clubs
We speak to a variety of gardening clubs in the area, some of the requests have come from outside cities. Our promotionof Xeriscape in the media and use of volunteers in our Xeriscape Demonstration Gardens has heightened the awareness of this program.

Other City Departments
We have begun coordinating with the Police and Fire Departments, the Libraries, and the Parks and Recreation Department to increase our networking with other existent education programs in the city.

Water Bill Inserts
The Arlington Water Utilities publishes a minimum of four water bill inserts each year which are designed to inform customers about rate increases, water conservation, xeriscape, and plumbing protection during the winter.

National Drinking Water Week
National Drinking Water Week is a big event in this community with a variety of activities including the Mayor's Proclamation, poster contests, and an open house at eh Pierce Burch Water Treatment Plant. Annually, approximately 1500 people attend this event which promotes education thorugh exhibits, tours, videos, contests, and fun!

Xeriscape Demonstration Gardens
In coordination with the city Parks Department, the Arlington Water Utilities recently completed Phase I of th Xeriscape Demonstration Gardens. This area was primarily planted by community volunteers who helped establish the 2.2 acre demonstration garden with over 15,000 plants. Tours are scheduled for this site through the spring of 1991.

Newspaper Advertisement
The Arlington Water Utilities has begun to advertise periodically in the local newspapers on water conservation and xeriscape. We have received favorable press coverage this year with a number of editorials and articles written on water related topics.

Miscellaneous Activities
This department has participated in local trade shows, the Fourth of July parade, and other public events to distribute information on water.

CITY OF CORPUS CHRISTI

Department of Public Utilities
Water Division
P.O. Box 9277
5352 Ayers, Building 8A
Corpus Chrisi, Texas 78469
512/857-1880
contact: Yolanda R. Marruffo

The City of Corpus Christi Water Division provides educational material such as brochures, films, coloring books, as well as speakers for classroom presentations. During the Spring 1991, the Major Rivers 4th grade science curriculum was adopted by area school districts. A pilot program was launched successfully in January 1991 to seek school administrators' approval of the program. The Texas Education Service Center local office served as a vital contact to schedule workshop sessions with lead teachers from each school. The Major Rivers program is available for purchase by contacting Educational Development Specialists, 5505 E. Carson, Suite 250, Lakewood, CA, (213) 420-6814.

An environmental and conservation public service announcement video has been developed for television viewing. Two 5-minute PSAs on the life cycle of water and water conservation were introduced in January, 1991. Video tapes are available for loan at no cost thorugh the City of Corpus Christi Water Division.

In addition, the City utilizes a slide presentation developed for the Regional Water Task Force. The slide presentation can be altered based on the type of group being addressed, ie., schools, plumbers, garden club, etc. Also, a library of films are available to schools and local organizations. Literature bags with the City's logo are filled with the following literature and shared with the community at various functions/activities.

-Landscape Water Conservation...Xeriscape
-Drip Irrigation
-Water - Our Most Valuable Resource
-A Homeowner's Guide to Water and Water Conservation (TWDB)
-How to Save Water Inside the Home (TWDB)
-How to Save Water Outside the Home (TWDB)
-Water Saving Ideas for Business and Industry (TWDB)
-Xeriscape (TWDB)

-Watering Guide (TWDB)
-Remember Save Water (sticker)
-The Story of Drinking Water
-Use Water Wisely (TWDB)
-pencils and key chains - logo: "don't get caught short south texas - conserver water"

WATER AND UTILITY DISTRICTS

EDWARDS UNDERGROUND WATER DISTRICT
c/o Kelly G. Morris
Division Manager of Information & Education
P. O. Box 15830
San Antonio, Texas 78212
512/222-2204
1-800-292-1047

The Edwards Underground Water District currently maintains a public information and education program with an annual budget of approximately $389,000. A component of the District's overall information program, the education program is responsible for developing an understanding of the geologic and hydrogeologic dynamics of the Edwards Aquifer and the importance of resource protection. The Public Information program is responsible for generating public awareness and support for the mission, services, and programs of the District.

The program format includes developing and distributing educational materials and curricula, including films and videos which are available for loan. The district also provides speakers and presentations to schools as well as various community organizations.

Public information materials, including a quarterly newsletter entitled *The Water Source*, are also distributed.

EVERGREEN UNDERGROUND WATER CONSERVATION DISTRICT
Lee Love, District Secretary
P.O. Box 155
1306 Brown
Jourdanton, Texas 78026
512/769-3740

The Evergreen Underground Water Conservation District has an extensive library of printed materials, audiovisuals, classroom materials, and general reference materials. Printed materials and audiovisuals cover topics including water supplies in general, groundwater supplies and wells, agricultural water conservation and irrigation, and urban water conservation.

Materials are available free of charge to any resident within the District. Audiovisuals are available on a loan basis only. Central reference materials are available on a reference basis only, to be used in the District office. To acquire a complete list of all materials available, write or call the District.

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT #162
c/o Donna Parrish
7706 Oakwood Lakes
Houston, Texas 77095
713/859-8088

Water Conservation Ranger Coloring Book
Suggested for pre-school through third grade– (Art available for re-printing)

WATER AND UTILITY DISTRICTS

HIGH PLAINS UNDERGROUND WATER CONSERVATION DISTRICT NO. 1
Carmon E. McCain, Information/Education Director
2930 Avenue Q
Lubbock, Texas 79405
806/762-0181

"Dedicated to the Principle that Water Conservation Is Best Accomplished Through Public Education"

The Water District's motto best describes the function of its Information/Education Section. With support from the remainder of the Water District staff, Information/Education Section personnel use many methods to convey water and water conservation messages to agricultural producers, the general public and school children.

At the Kindergarten level, the District co-sponsors a water conservation puppet show with the Junior League of Lubbock, Inc. A brochure that shows younger children how they can conserve water accompanies the presentation.

For Grade 1-6, the Information/Education Section staff distributes copies of the comic book, *The Story of Drinking Water*, and its teacher's guide to the 65 public school systems within the Water District's service area.

A supplemental textbook on water and water conservation in the Southern High Plains was written by the Water District and distributed to students in Grades 7-9. A revised edition is planned.

Audio-visual materials on water and water conservation are evaluated. Those deemed worthwhile are purchased by the Water District and distributed to the public school systems through the Education Service Center in Lubbock and Amarillo.

Water resources education packets have been developed for use in Vocational Education classes and are made available throughout the Water District.

Each month, the Water District publishes a newsletter, *The Cross Section*, and it is circulated to more than 6,900 persons on local, state, national and international levels.

Exhibits, displays, public presentations, public service announcements and work with the news media are additional ways that the High Plains Underground Water Conservation District No. 1 Information/Education Section staff keeps the public educated about water, water conservation and water quality.

NORTH PLAINS WATER DISTRICT
P. O. Box 795
Dumas, Texas 79029
806/935-6401

- Comic book for grade school level
- 7th and 8th grade Earth Science class
- Scholarship program

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NORTH TEXAS MUNICIPAL WATER DISTRICT
Reagan S. Cook
P. O. Drawer C
Wylie, Texas 75098
214/442-5405

The NTMWD currently provides tours of our water treatment plant in Wylie or slide presentations to schools within our service area. Depending on the content required to be consistent with the schools curriculum at the time of presentation, the following content areas can be covered:

- Water source
- Water treatment process
- Water conservation
- Wastewater treatment process
- Laboratory services - Environmental quality
- Solid waste disposal

The most frequent requests for presentations come from third and fifth grades, although a wide variety of groups make such requests. Girl Scout and Boy Scout troops, as well as adult civic organizations, also receive presentations.

Handout materials include two booklets:

The ABC's of Water Conservation
Water - Our Most Valuable Resource

The NTMWD has a Water Conservation Video developed in cooperation with the Plano Public Works Department that is also available for school presentations.

Regional, State & Federal Agencies

State of Arizona
Education Division
Department of Water Resources
15 South 15th Avenue
Phoenix, Arizona 85007

The Education Division of the Arizona Department of Water Resources has created two audio-visual programs available for secondary educational curricula. Both programs are available for community viewing.

John Q. Public is featured in the newest presentation, *Managing Arizona's Water: Challenges, Choices and Change*. This program gives a brief overview of past, present and future water management issues. It includes a history of the state's water supply and demand, a discussion of the 1980 Groundwater Management Act, and an introduction to unresolved management issues such as water supply augmentation, water reuse, and interbasin water transfers. This 20-minute presentation, in either slide/tape or video format, is geared to high school juniors and seniors.

Groundwater: Our Future Depends on It is a 27-minute video featuring high school students and Department of Water Resources staff. This program includes a discussion of past and present water use, groundwater overdraft, the Central Arizona Project, the Groundwater Code, and water conservation. The Department prepared the video to introduce seventh through twelfth grade students to groundwater management issues.

In addition, The Department has Groundwater Flow Models, five brochures on Arizona's Groundwater Code, the Water Trivia Game and an audio-visual lending library.

The materials and audio-visual programs are available statewide on a loan basis.

State of California
Department of Water Resources
Division of Local Assistance
Water Conservation Office
Alice S. Dyer, Editor, Publications and Editorial Services
1025 P Street, P.O. Box 942836
Sacramento, CA 94236-0001
916/327-1653
1/800/952-5530

The Department of Water Resources produces many publications and other materials that explain how to develop water conservation programs, experiences with past programs, how homeowners can save water, and more.

A Catalog of Water Conservation Materials, June 1989, lists the DWR reports, bulletins, brochures, guidebooks, newsletters, slide/tape shows, and video tapes that explain these water conservation programs. These programs include efficient landscaping, agricultural water conservation, water audits and leak detection, water reclamation, industrial water conservation, public information and education, irrigation system evaluation, and water management.

DWR's most current water conservation publications and materials are described in this catalog and are free. Individuals and agencies within California may receive up to ten copies of each publication. Out-of-state requestors may receive one copy of each publication.

LOWER RIO GRANDE VALLEY DEVELOPMENT COUNCIL
4900 North 23rd Street
McAllen, Tx. 78504
512/682-3481

LRGVDC hands out materials primarily provided by the Texas Water Development Board (TWDB), Texas Water Commission (TWC), and Texas Rural Water Program. These materials include information on water conservation, water quality, use, sanitary landfills, and water assessments for planning and development.

LRGVDC also sponsors public information workshops in conjunction with EPA, TWDB, and the TWC.

TEXAS GENERAL LAND OFFICE
Adopt-A-Beach-Program
17th and Congress
Stephen F. Austing Building
Austin, Texas 78711
1-800-85-BEACH

In 1986, the Texas General Land Office initiated a campaign to clean up Texas beaches and to eliminate the primary source of beach garbage - offshore dumping. Since the first statewide cleanup in 1987, more than 39,000 Texans have picked up over 1,200 tons of beach trash.

In addition, the Texas Lakeshore Cleanup Program was incorporated with Adopt-A-Beach in 1989. This program activates thousands of volunteers who participate in the cleanup of 52 Texas lakes. To learn more about Adopt-A-Beach and Lakeshore programs, call 1-800-85-BEACH.

TEXAS PARKS AND WILDLIFE DEPARTMENT
Ilo Hiller, Project WILD Coordinator
4200 Smith School Rd.
Austin, Tx. 78744

Project Wild is an award-winning environmental and conservation education program of instructional workshops and supplementary curriculum materials for teachers of kindergarten through high school age youth which prepares students to be responsible decision makers.

The *Project Wild* materials are distributed free of charge to teachers and youth group leaders who attend one of the Texas Parks and Wildlife sponsored six-hour instructional workshops. The *Project Wild* guides cannot be purchased or obtained in any other manner.

Steve Hall, Education Coordinator
4200 Smith School Rd.
Austin, Tx. 78744

This department of Texas Parks and Wildlife administers and coordinates the *Texas Boater Education* program; distributes various literature including *Safe Boating Commandments, A Digest of the Texas Water Safety Act* and *Boating in Texas*; and maintains a Film/Video library with several topics relating to boating and water safety.

TEXAS STATE SOIL & WATER CONSERVATION BOARD
P. O. Box 658
Temple, Texas 76503
817/773-2250

The Board uses *Project Learning Tree* and *Project Wild* to emphasize soil, water and related renewable resource conservation. The TSSWCB also coordinates and conducts soil and water conservation short courses in cooperation with the National Office and Local Councils of The Boy Scouts of America. The council emphasizes soil and water conservation management techniques which lend to the development and understanding of coordinated soil and water conservation plans.

TEXAS WATER COMMISSION
Office of Public Information
P. O. Box 13087
Austin, Texas 78711
512/463-8028

As a regulatory agency, TWC has pamphlets available regarding ground water, hazardous waste and wastewater treatment useful for secondary and post-secondary groups. A 17x22" diagram of the ground water cycle, suitable for all age levels, is available in black & white.

For the lower elementary level, a workbook is available entitled *Do You Know How to Keep Our Water Clean?* The workbook introduces the subject of water pollution and methods used to stem this pollution. For the fourth through sixth grade level, a teacher's guide to implement water education teams (W.E.T.) is available, along with a colorful poster and information on receiving a certificate of achievement for W.E.T. class projects.

TWC is playing a role in the distribution of the fourth grade level unit *Major Rivers* with other water agencies and also provides resource help to schools in setting up water resource units whenever possible.

TEXAS WATER DEVELOPMENT BOARD
Office of Public Information & Education
P. O. Box 13231
Austin, Texas 78711-3231
512/463-7869

The TWDB subsidizes statewide distribution of *Major Rivers*, the fourth-grade water education program developed by the Lower Colorado River Authority.

The TWDB Water Conservation Section can on request supply an extensive listing of water conservation literature and audio/visual materials available from federal and state water agencies.

The TWDB also has a 10-minute 1/2" VHS videotape entitled *The Texas Water Development Board, Its Purpose and Programs* and a 13-minute video, *Protecting Our Texas Bays and Estuaries*, that can be checked out for secondary classroom use.

UNITED STATES COAST GUARD AUXILIARY
Bryan Bell
2117 West 10th
Austin, Tx. 78703
512/472-9587

The United States Coast Guard Auxiliary has a water safety course (1 hr.) called *Water 'N Kids* that is designed for grades 1-3. It is presented upon request throughout the 8th Coast Guard District which includes the State of Texas.

For interested students, we could also offer our Adult Education Courses (13 and 26 hours) on boating safety, seamanship, and sailing to the high school level student, as well as courses in navigation. These courses have exams and certification. Our instructors are certified by the Auxiliary and also the Texas State Parks and Wildlife Department.

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Kathy Dean
16151 Cairnway, Suite 209
Houston, Texas 77084

The Harris County office of the USDA Soil Conservation Service has samples of materials produced by the USDA including the following brochures and map:

What Is A Watershed?
Conservation and the Water Cycle (with poster-size, four-color map)

Reproducible masters of *Concepts Imagination Books* for grades K-6 are available for *Soil Concepts and Water Concepts.*

45 Suggested Environmental Education Lessons Plans are in a booklet designed for upper elementary grades.

The Dirt Folder, A Soil Teaching Packet contains lessons that have been field tested in grades 1-6. The packet sections include (1) a soils fact sheet; (2) seven lesson plans; (3) an idea expander; and (4) a bibliography for additional references.

The Harris County Soil Conservation Service also recommends the following Environmental Education Resources:

NATIONAL AUDUBON SOCIETY
950 Third Avenue
New York, NY 10022
212/832-3200

NATIONAL GEOGRAPHIC SOCIETY
Educational Services
P. O. Box 1269
Washington, D. C. 20013
1-800-368-2728

U.S. FOREST SERVICE
Information Center
1720 Peachtree Street, NW
Atlanta, GA 30367

MISSOURI DEPT. OF CONSERVATION
P. O. Box 180
Jefferson City, MO 65102
314/796-2669

PENNSYLVANIA DEPARTMENT OF EDUCATION
333 Market St.
Harrisburg, PA 17108
717/783-6788

WILDLIFE EDUCATION SERVICE
Kansas Fish and Game Commission
Box 54A, Route 2
Pratt, Kansas 67124

GIRL SCOUTS U.S.A.
Exploring Wildlife Communities with Children
Girl Scouts - Program Department
830 Third Avenue
New York, NY 10022
212/940-7500

NATIONAL WILDLIFE FEDERATION
1412 Sixteenth St. NW
Washington, D.C. 20036
703/790-4360

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Environmental Education
Michael E. O'Reilly
401 M Street, SW, A-107
Washington, DC 20460
202/382-4454

The EPA has a number of publications that are of interest to teachers and young people. These include *Environmental Education Materials For Teachers and Young People, Let's Recycle! Lesson Plans for Grades K-6 and 7-12, Earth Trek...Explore Your Environment*, and a summary of state environmental education initiatives. Additionally, the Agency sponsors the President's Environmental Youth Awards, a program that is designed to recognize long term environmental projects completed by individuals or groups in kindergarten through 12th grade.

INSTITUTIONS OF HIGHER LEARNING

TEXAS A&M UNIVERSITY
Dr. Wayne Jordan, Director
Texas Water Resources Institute
301 Scoates Hall
College Station, Texas 77843

The Texas Water Resources Institute (TWRI) publishes two newsletters: *Texas Water Resources* covers one topic in an in-depth format. *New Waves* provides a capsulized summary of water issues. Both are free and are published quarterly. TWRI also produces numerous technical reports.

TEXAS TECH UNIVERSITY
Dr. Lloyd Urban, Director
Water Resources Center
P. O. Box 4630
Lubbock, Texas 79409
806/742-3597

The Texas Tech University Water Resources Center publishes a quarterly newsletter, *The WRC Newsletter*, which highlights the Center's water resources related research and activities. The Center also publishes technical reports regarding the water resources related research projects which are conducted on campus. Additionally, the Center has a 12-minute videotape, *"Xeriscape West Texas Style"* available for loan at no cost.

UNIVERSITY OF TEXAS AT AUSTIN
Marine Science Institute at Port Aransas
Rick Tinnin, Director
Marine Education Services
Port Aransas, Texas 78373-1267
512/749-6729

Three major programs are offered in the *Marine Education Services* program sponsored by the Marine Science Institute which is located on the northeast tip of Mustang Island, a barrier island between coastal bays and the Gulf of Mexico.

- A visiting class program hosts junior high, high school and college science class groups. Facilities available for visiting class use include air-conditioned dormitories, teaching labs, a pier lab and access to two research vessels which are used as floating class laboratories. Over 9,500 students from 300 different schools visited MSI last year.

- The Visitor's Center is open Monday thru Friday from 8 a.m. to 5 p.m. Seven aquaria show typical Texas coastal habitats and the organisms that live there. Thirty-five thousand visitors tour the facility annually. Group tours are available if made by written request two-weeks prior to the desired date.

- The third major activity of the program involves the development of a series of weekend teacher workshops. These workshops are aimed at upgrading the proficiency of classroom teachers at all levels by the introduction of marine science topics and techniques into the curriculum of all subjects, from science to art and history. Workshop topics range from basic marine science for elementary and secondary teachers to advanced-topic workshops on such subjects as Barrier Island Geology and Ecology, Seaweeds and Seagrasses,

EDWARDS AQUIFER RESEARCH & DATA CENTER
Julius R. Kroschewsky, Assistant Director
EARDC Freeman Bldg., Rm 248
Southwest Texas State University
San Marcos, Texas 78666
512/245-2329

Offer lecture-slide presentations to schools (public & private, all grades including universities).

Offer Aquatic Study Field Days to schools (public and private, all grades including universities).

Offer Aquatic Studies Summer Camp for campers between the ages of 9 and 15 inclusive. Eight one-week sessions consisting of Water Education and Water Recreation.

Offer educational workshops for teachers and consultation services for school districts, water districts and other agencies requiring information related to water, water conservation or water education.

TEXAS AGRICULTURAL EXTENSION SERVICE
303 Agricultural Engineering Dept.
Texas A&M University
College Station, Texas 77843
409/845-7451

The Texas Agricultural Extension Service has technical information on various aspects of water quality and conservation, including agriculture and home economics, that can be supplied to schools and teachers on a request basis. The materials which include publications, slide sets and video tapes can be used to enhance the technical accuracy and relevance of local school programs through identification of specific practices and issues that are important to that area. These materials are available through County Extension Agents in every county in Texas. In addition, the County Extension Agent is a valuable resource person on many water quality and conservation issues.

The Extension Service has a *Water Conservation 4-H Lessons and Teachers Guide* with 10 specific lessons that teachers may use to enhance their regular curriculum. It can also be used by volunteer leaders outside the classroom in 4-H youth or other youth-education programs. The lessons and guide were used successfully in Extension work with school districts in El Paso county.

Water Quality and Conservation programs of the Texas Agricultural Extension Service include irrigation water management for crops, irrigation systems, farming methods for conserving rainfall, range management practices to reduce water loss, nonpoint source water pollution control, livestock waste management, private water systems, water quality for homes, livestock and crops, private sewage systems, beneficial use of municipal wastewater and sludge in crop production, landscape watering and conservation, in-home water use reduction, production of aquaculture species, selection and environmentally safe use of pesticides and fertilizers, and other topics.

Physical and Chemical Oceanography, Fish Ecology, Birds of the Texas Coast, Marine Weather, Plate Tectonics, and *Project For Sea*.

Complete information on all programs plus detailed schedules and costs for teacher workshops are available by writing or calling the Institute.

UTAH STATE UNIVERSITY
Grant Gill Smith, Director
International Office for Water Education
Logan, Utah 84322-8200
801/750-3182

The International Office for Water Education has the following educational material or services to offer:

- A basic water education program for grades K-6.
- *Water Education* yearly calendar adaptable to each state for each elementary school class in the state. This calendar goes beyond just dates and holidays by including up to 12 water education lessons or questions per month for class participation and learning.
- *Young Artists Water Education Poster Contest* for each state. This contest is adaptable to each state and the winners are featured in that state's calendar. IOWE has the ability to coordinate the poster contest within each state. In Utah for example, over $500,000 worth of prizes were given out. It was estimated that over 20,000 school children participated in this water poster contest.
- Inservice for teachers:

Group inservice for up to 3 continuing education credits.
Independent Study for up to 3 continuing education credits.

Commercial Resources

Channing L. Bete Co., Inc.
David C. Urbonas
200 State Road
South Deerfield, MA 01373-0200
1-800-628-7733

The Channing L. Bete Company is the publisher of informational booklets in the unique word–and–graphic format of Scriptography. The company publishes over 1,000 different titles on a wide variety of subjects for children, teens and adults, including water conservation, water safety, environmental issues and energy education. A free catalog and price list may be obtained by calling 800-628-7733 and mentioning this directory.

List of booklets:

Preschool: *"My Book About Water"* Coloring Book (56457)A

Grades 1-3: *"Water Conservation"* Coloring & Activities Book (54239)A

Grades 4-6: *"Let's Learn About Using Water Wisely"* Information & Activities Book (56325)A

For Teens and Adults: *Water – Our Most Valuable Resource* (16881)A; *Groundwater Protection* (45062)A; and *Water Conservation* (16642)A.

Many more titles are available. Call or write for a free catalog.

The Earth Works Group
Earthworks Press
1400 Shattuck Avenue, #25
Berkley, CA 94709
415/841-5866

The Earth Works Group publishes *"The Recycler's Handbook, A Guide to Recycling"* and *"50 Simple Things You Can Do To Save The Earth,"* a collection of information about practices and products that concerned citizens can use to combat specific environmental problems such as ozone depletion, acid rain, and the greenhouse effect.

Educational Development Specialists
5505 E. Carson Street, Suite 250
Lakewood, California 90713-3039
213/420-6814

Major Rivers

Introducing...*Major Rivers*, the Texas Water Education Program. *Major Rivers* is designed to teach 4th grade students about the importance of water in Texas, while meeting the Texas Education Agency curriculum requirements for elementary science, social studies, and composition.

Major Rivers addresses the water cycle, water supply and demand, water distribution, and water use and conservation. The materials are presented in a colorful and entertaining format. The instruction materials included are the following:

- VHS video
- Teacher's Guide
- Record Sheet
- Classroom Poster
- 25 Student Books
- 25 Home Information Leaflets
- 25 *Major Rivers* Badges
- 25 Pretests and 25 Posttests

Major Rivers was developed by EDS, the developer and distributor of many instructional programs, including the *Energy Source Education Program*.

Think Earth

Think Earth is a new environmental education program for K-3. The program teaches students to conserve natural resources, reduce waste, and minimize pollution. *Think Earth* addresses all elements of the environment—air, land, water, and energy.

Materials for students and parents are provided on reproducible masters, so teachers can make just the number of copies they need or can even use the master for overhead projection, thus saving paper and reducing waste.

School-packs, which include one *Think Earth* video and one of each of the K-3 units, cost $85.00. Detailed information about the program is available by contacting Ann Crafton at Educational Development Specialists.

INNOVATIVE COMMUNICATIONS

207 Coggins Drive
P. O. Box 23205
Pleasant Hill, California 94523
415/944-0923

Produces and distributes "generic" student books and teacher's guides used by water and governmental agencies throughout the country. These books provide basic water facts and information and are written for specific grade levels. The books include *Water Play and Water Fun* (Grades K-3), *The Adventures of Captain Hydro* (Grades 4-6), and *The Further Adventures of Captain Hydro* (Grades 7-9).

Also designs "customized" educational materials for water departments across the country, including the states of California and Kentucky, the cities of Los Angeles and Seattle and various regional water agencies.

NATIONAL ENERGY FOUNDATION
5160 Wiley Post Way, Suite 200
Salt Lake City, Utah 84116
801/539-1406

The National Energy Foundation has an outstanding collection of water materials for all grade levels.

Water Poster: A four-color 23" x 35" poster illustrates the water cycle, forms of water, and uses of water — recreation, drinking, irrigation, hydropower, etc.

NEF's popular water poster is now available in a full-color overhead transparency.

Water Energist: An 8-page 11" x 17" two color newspaper-format publication with activities and information about chemistry and properties of water; water cycle; water treatment; hydropower; desalinization; how much water do we use; how much is available; and who owns the water.

A Conceptual Framework for Water Education: The Conceptual Framework is an educator's guide to the goals, concepts and objectives of water education. It is designed to assist educators in establishing water education in their classroom.

Water Education Activity Guides: The water activity guides are divided in grade level books: K-4 (40 pages), 5-8 (49 pages) and 9-12 (60 pages). Each book contains interdisciplinary water education activities designed to incorporate water concepts and issues into the classroom curriculum.

Water Education Bibliography / Directory: A 78-page annotated bibliography of resources for water education. The bibliography provides a listing of reference resources, films, pamphlets, multi-media kits, curriculum materials and a list of agencies/organizations.

Water Education Lesson Plans: The lesson plans are divided in grade level groups: K-4 (11 lessons), 5-8 (13 lessons) and 9-12 (11 lessons). Each collection contains completely developed, tried and tested lesson plans dealing with water resources.

Water Puzzle Poster: A 25" x 20" two-color poster puzzle that contains a hidden water message in "concentration form". This poster is targeted for 1st through 3rd grade students.

NEF also conducts a wide variety of programs including conferences, seminars, workshops, lectures, community programs, and other education programs. Additional materials focusing on energy, science, technology, society, natural resources and other current issues and topics are available by contacting NEF.

SMALL CHANGE ORIGINAL THEATRE, INC.
Hennepin Business Center
1037 Tenth Avenue, SE
Minneapolis, MN 55414
612/331-6866

Small Change has developed several unique water education programs (live theatre performances) which can be tailored to fit the specific needs of the client's company and service area. These include: *Alice in Waterland*, *Legend of the Lake*, and *The Big Splash*. Each elementary program includes two 25 minute performances per school (one for K-3, one for grades 4-6) and

appropriately geared classroom materials. The junior high program, *W.T.V.: The Clearwater Countdown*, is designed for 7-12 grade classrooms, is 45 minutes long, and includes classroom guides.

Flexibility is our specialty. We can revise an existing script or write an entirely new one to emphasize your specific needs.

SOIL AND WATER CONSERVATION SOCIETY
7515 Northeast Ankeny Road
Ankeny, Iowa 50021-9764
515/289-2331
1-800-THE-SOIL

The unleashing of the imaginations of young people is a powerful educational force. Writers of children's literature and textbooks know well the power of fantasy to attract and hold the attention of young people and the might of cartoon illustrations to amplify the written word. We combine the power of cartoons with the intrigue of fantastic adventures to present real-world environmental concepts.

The convenience of our booklets is hard to beat. But we have made them even easier to use–and better for learning and teaching–by adding teaching guides. Each guide includes objectives, implementation suggestions, and a choice of easily implemented student activities.

Water in Your Hands – Join Martin, Heidi, and Fresh-Water, an ingenious but "all wet" character on an adventure spanning millions of years and covering water issues and facts around the world. Readers explore water quality and supply problems, discover the importance of a sustained supply of high-quality water, and learn how to prevent misuse and pollution of water resources.

Call for immediate service or a price list: 1-800-THE-SOIL.

STAN PHILLIPS PRODUCTIONS, INC.
12439 Magnolia Bl. #262
N. Hollywood, CA 91607
818/982-8575

Stan Phillips Productions, Inc. distributes *"Water Follies"*, an award-winning 7-minute water conservation cartoon available on videotape or 16mm film. Also available is a set of four 30-second TV spots, complete with music and sound effects, culled from *"Water Follies"* to use as public service commercials. Subjects covered in both *"Water Follies"* and the public service commercials include car washing, lawn watering, dish washing, and toilet use. The commercials may also be customized with the purchaser's own narration, logo or I.D.